

Claims

1. An apparatus for applying sliding resistance for a weft knitting machine, which applies sliding resistance to a moving member which is brought by a carriage and slides in a longitudinal direction of a needle bed in a weft knitting machine, the apparatus comprising:

a guide rail disposed in parallel to the longitudinal direction of the needle bed, the moving member being able to slidably move on the guide rail;

connection switching means which is capable of carrying out switching between a state where the moving member and the carriage are connected and the carriage brings the moving member, and a state where the connection is released and the carriage does not bring the moving member;

first sliding resistance applying means for applying first sliding resistance in-between the guide rail and the moving member; and

second sliding resistance applying means for applying second sliding resistance in-between the moving member and the carriage, and making the second sliding resistance smaller than the first sliding resistance at least when the carriage

reverses a moving direction.

2. The apparatus of claim 1, wherein the first sliding resistance applying means is provided with a first permanent magnet which generates magnetic attraction and applies the first sliding resistance; and

the second sliding resistance applying means is provided with a second permanent magnet which generates magnetic attraction and applies the second sliding resistance smaller than the first sliding resistance.

3. The apparatus of claim 1, wherein the first sliding resistance applying means is provided with a permanent magnet which generates magnetic attraction and applies the first sliding resistance; and

the second sliding resistance applying means is provided with an electromagnet which generates magnetic attraction and applies the second sliding resistance, and which can control the magnetic attraction and make the second sliding resistance smaller than the first sliding resistance at least just before the moving member is brought, by switching of the connection switching means, into a

state where it is brought by the carriage.

4. The apparatus of claim 3, wherein the second sliding resistance applying means energizes the electromagnet and applies the second sliding resistance when the moving member being brought by the carriage is separated and stopped.

5. The apparatus of claim 4, wherein when the moving member is separated, the second sliding resistance applying means excites the electromagnet so as to apply the second sliding resistance, and thereafter, demagnetizes the electromagnet and a magnetically attracting portion of the moving member.

6. The apparatus of claim 5, wherein the second sliding resistance applying means excites the electromagnet by passing electric current of one direction therethrough, and demagnetizes by passing demagnetization electric current in a direction opposite to the one direction.

7. The apparatus of any one of claims 1 to 6, wherein the connection switching means has:
a controlling member disposed to one of the

carriage and the moving member, being capable of controlling a deformation state; and

a bringing member which is disposed to the other of the carriage and the moving member, and has an engagement place for bringing that can engage with the controlling member when the controlling member is in a predetermined deformation state.

8. The apparatus of any one of claims 1 to 7, wherein the moving member is a holding arm which holds a yarn carrier having a yarn feeding port for feeding a knitting yarn at a tip thereof, in a position where the yarn feeding port faces a knitting needle in knitting operation.